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BLANK ROME LLP
600 NEW HAMPSHIRE AVENUE, N.W.
WASHINGTON, DC 20037

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MORRISON, JAY A	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/509,106
Filing Date: September 27, 2004
Appellant(s): BAXTER ET AL.

David J. Edmondson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/25/2007 appealing from the Office action mailed 2/23/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Cappi (Publication Number 2002/0038308), Chappell ("Understanding .NET: A Tutorial and Analysis", ISBN: 0201741628) and Hazlehurst et al. (Patent Number 5,974,412).

(9) Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-21,23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cappi (Publication Number 2002/0038308) in view of Chappell ('Understanding .NET: A Tutorial and Analysis", ISBN: 0201741628) and further in view of Hazlehurst et al. ('Hazlehurst' hereinafter) (Patent Number 5,974,412).

As per claim 1, Cappi teaches

A method of searching a plurality of information databases for records related to an input search term, comprising: (see abstract and background)

selecting a group of related search terms containing the input search term, from a search database of terms arranged in predefined groups according to their relationship with one another, wherein each term is present within one or more of the information databases; (paragraph [0072])

and displaying at least some of the corresponding records to a user. (paragraph [0090])

Cappi does not explicitly indicate "searching for terms from the selected group within a data repository comprising selected data previously extracted from the records

of each information database, to identify corresponding records within the information databases which contain the terms within the selected group."

However, Chappell discloses "and, searching for terms from the selected group within a data repository comprising selected data previously extracted from the records of each information database, to identify corresponding records within the information databases which contain the terms within the selected group" (page 248, SelectCommand bulletpoint; page 249, figure 6-4).

It would have been obvious to one of ordinary skill in the art to combine Cappi and Chappell because using the steps of "and, searching for terms from the selected group within a data repository comprising selected data previously extracted from the records of each information database, to identify corresponding records within the information databases which contain the terms within the selected group" would have given those skilled in the art the tools to improve the invention by allowing the user to select information of interest. This gives the user the advantage of not have to examine extraneous information.

Neither Cappi nor Chappell explicitly indicate "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases."

However, Hazelhurst discloses "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated

in the data repository to speed querying in the data repository relative to the plurality of information databases" (semantic structure retains, column 2, lines 35-38).

It would have been obvious to one of ordinary skill in the art to combine Cappi, Chappell, and Hazelhurst because using the steps of "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases" would have given those skilled in the art the tools to improve the invention by allowing the user have the data more efficiently stored. This gives the user the advantage of having faster access to the information.

As per claim 2,

Cappi does not explicitly indicate "the data repository is arranged as a number of records, each record corresponding to a record present within one of the information databases."

However, Chappell discloses "each record in the repository comprises a pointer identifying the record in the information database to which it relates" (page 249, first paragraph; figure 6-4).

It would have been obvious to one of ordinary skill in the art to combine Cappi and Chappell because using the steps of "each record in the repository comprises a pointer identifying the record in the information database to which it relates" would have given those skilled in the art the tools to improve the invention by allowing the user to

select information of interest. This gives the user the advantage of not have to examine extraneous information.

As per claim 3,

Cappi does not explicitly indicate "each record in the repository comprises a pointer identifying the record in the information database to which it relates."

However, Chappell discloses "each record in the repository comprises a pointer identifying the record in the information database to which it relates" (page 248, UpdateCommand bullet point).

It would have been obvious to one of ordinary skill in the art to combine Cappi and Chappell because using the steps of "each record in the repository comprises a pointer identifying the record in the information database to which it relates" would have given those skilled in the art the tools to improve the invention by allowing the user to select information of interest. This gives the user the advantage of not have to examine extraneous information.

As per claim 4,

Cappi does not explicitly indicate "the amount of selected data in the repository is less than that contained in the information databases."

However, Chappell discloses "the amount of selected data in the repository is less than that contained in the information databases" (page 248, SelectCommand bullet point).

It would have been obvious to one of ordinary skill in the art to combine Cappi and Chappell because using the steps of "the amount of selected data in the repository is less than that contained in the information databases" would have given those skilled in the art the tools to improve the invention by allowing the user to select information of interest. This gives the user the advantage of not have to examine extraneous information.

As per claim 5, Cappi teaches

"the data in the repository comprises definitional data" (paragraph [0010]).

As per claim 6, Cappi teaches

"the definitional data describe data in terms of its nature, use or value" (paragraph [0010])

As per claim 7, Cappi teaches

"the data in the repository comprises semantic data" (paragraph [0010]).

As per claim 8, Cappi teaches

"the semantic data describes alternative terms for the data in the information database" (paragraph [0010])

As per claim 9, Cappi teaches

Cappi does not expressly show "the semantic data describe synonymous terms in the information databases" (paragraph [0010])

As per claim 10, Cappi teaches

each term in each predefined group within the search database has associated meta-data indicating the one or more information databases within which the term is contained. (paragraph [0010])

As per claim 11, Cappi teaches

the associated meta-data indicates the corresponding records of the one or more information database(s) within which the associated meta-data is contained. (paragraph [0010])

As per claim 12, Cappi teaches

a number of records within the data repository are assigned to a domain. (paragraph [0078])

As per claim 13, Cappi teaches

the terms in the predefined groups within the search database are synonymous terms. (paragraph [0010])

As per claim 14, Cappi teaches

each group has an associated group identifier. (paragraph [0069])

As per claim 15, Cappi teaches

each group has associated descriptive data for describing the selected group. (paragraph [0067])

As per claim 16, Cappi teaches

determining a context of any repository records identified. (paragraph [0078])

As per claim 17, Cappi teaches

the context is determined by limiting the search to repository records having a common domain. (paragraph [0078])

As per claim 18, Cappi teaches

the context is determined by searching for the presence of one or more of the terms within the selected group, in the same corresponding record of the repository. (paragraph [0078])

As per claim 19, Cappi teaches

the context is determined by searching in related classes of terms. (paragraph [0069])

As per claim 20, Cappi teaches

the context is determined by the proximity of one or more related terms within a record. (paragraph [0010])

As per claim 21, Cappi teaches

A computer program product comprising: a computer readable medium; and computer program code means on the computer readable medium adapted to perform the method according to claim 1. (see abstract and background)

As per claim 23, Cappi teaches

A database searching system for searching a plurality of information databases for records related to an inputted search term, the system comprising: (see abstract and background)

a search database comprising related search terms arranged into predefined groups according to their relationship to one another, wherein each term is present within one or more of the information databases; (paragraph [0069])

selection means, for selecting a group containing the inputted search term from the search database; (paragraph [0072])

and displaying at least some of the corresponding records to a user. (paragraph [0090])

Cappi does not explicitly indicate "a data repository comprising selected data previously extracted from the records of each information database; searching means

for searching the repository for terms from the selected group to identify the corresponding records within the information databases which contain the terms within the selected group."

However, Chappell discloses "a data repository comprising selected data previously extracted from the records of each information database; and, searching means for searching the repository for terms from the selected group to identify the corresponding records within the information databases which contain the terms within the selected group" (page 248, SelectCommand bulletpoint; page 249, figure 6-4).

It would have been obvious to one of ordinary skill in the art to combine Cappi and Chappell because using the steps of "a data repository comprising selected data previously extracted from the records of each information database; and, searching means for searching the repository for terms from the selected group to identify the corresponding records within the information databases which contain the terms within the selected group" would have given those skilled in the art the tools to improve the invention by allowing the user to select information of interest. This gives the user the advantage of not have to examine extraneous information.

Neither Cappi nor Chappell explicitly indicate "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases."

However, Hazelhurst discloses "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated

in the data repository to speed querying in the data repository relative to the plurality of information databases" (semantic structure retains, column 2, lines 35-38).

It would have been obvious to one of ordinary skill in the art to combine Cappi, Chappell, and Hazelhurst because using the steps of "the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases" would have given those skilled in the art the tools to improve the invention by allowing the user have the data more efficiently stored. This gives the user the advantage of having faster access to the information.

As per claim 24, Cappi teaches

further comprising an input means for supplying the inputted search term to the selection means. (paragraph [0035]; figure 1, item 102)

As per claim 25, Cappi teaches

the input means comprises a communication network such that the inputted search term is received from a remote location. (paragraph 0035]; figure 1, item 102)

As per claim 26, Cappi teaches

a plurality of information databases from which data is extracted for storage within the data repository. (paragraph [0038])

As per claim 27, Cappi teaches

the data repository, is stored upon a separate computer system with respect to the information databases. (paragraph [0036])

As per claim 28, Cappi teaches

each group has associated descriptive data for describing the group. (paragraph [0010])

(10) Response to Argument

Applicant argues that Hazlehurst et al. ('Hazlehurst' hereinafter) (Patent Number 5,974,412) does not disclose "the selected data are semantically normalized in the data repository and manipulated in that repository so as to speed the querying". It is respectfully submitted that Hazlehurst does in fact teach this limitation, as shown in the following citation:

> "The evolutionary framework also makes the system more effective at locating the most relevant documents by refining the semantic structure generated through retention of good documents." (column 2, lines 35-38)

It is clear that semantic structure is refined in Hazlehurst, which reads on the selected data being semantically normalized. It is noted that semantic normalization is a very broad term but generally means that the data is stored in such a way as to speed

or otherwise make more efficient the storage and/or retrieval of said data. In fact the claim states as much by stating "to speed querying". Respectfully, Hazlehurst also covers this by making "the system more effective at locating the most relevant" data (quote from the above citation).

Applicant further argues that Hazlehurst has "nothing to do with the semantic normalization of data or concepts" and that the documents in Hazlehurst's undergo "a format conversion rather than a semantic normalization." Applicant also argues that the refining of the semantic structure of vector spaces is different than semantic normalization. It is respectfully submitted that the semantic normalization of the data is not to be confused with the semantic normalization of the data structures, or the organization of the columns within a table or across tables. This type of semantic normalization refines the data structures by analyzing the meta-data (or data about the data) of these structures, such as the names of tables or columns. For example, using the meta-data to perform semantic normalization might be done to determine if a data column is replicated in many places inside the database schema and then one of those columns might be removed which would make the storage of the data more efficient and save time in retrieving the data. Respectfully, this is not what is being claimed by the Applicant, although the "Summary of the Claimed Subject Matter" in the instant Appeal Brief submitted by the applicant points to sections of the specification that discuss the meta-data at length (page 8, line 34 through page 10, line 22; page 22, lines 2-10). However, the claims themselves make no mention of the meta-data and the applicant is

explicitly claiming the semantic normalization of the data itself. This is what is occurring in Hazlehurst, since the claim is written in such a broad manner that any change in structure or manner in which the data is stored could be interpreted as selected data "being semantically normalized in the data repository and being manipulated in the data repository", and Hazlehurst manipulates of the data in the repository:

> "The output of the clustering process is a set of centroid vectors that represent the "axes" of the collator centroid space 134. The "p" function 133 operates to map document vectors from the collator vector space 132 into the collator centroid space 134.
>
> Referring to FIG. 10A, the collator centroid space 134 in one embodiment of the invention is described by a document table 134A and a centroid table 134B. Both these tables are used to efficiently retrieve semantically related documents. The document table 134A contains one row for each document managed by collator 108. The columns of the document table 134A correspond to centroid vectors and provide an ordering of "semantic distances" from the particular document to the various centroid vectors. Distance metrics can be used to compute the semantic distance or "semantic similarity" between any two representations in the collator vector and centroid spaces." (column 11, line 61 through column 12, line 10)

Here Hazlehurst clearly discloses that data which is stored in the database is manipulated in the repository, and that relates to a type of semantic normalization regardless of whether the data is stored in vectors or any form as long as the very broadly defined limitation is met by the prior art.

It is respectfully submitted that perhaps the applicant intended to claim the normalization of the data structures, as pointed to in the "Summary of the Claimed Subject Matter" in the instant Appeal Brief, but Hazlehurst does in fact teach the limitation as claimed by the Applicant.

Conclusion:

The references cited disclose the claimed system and methods for searching a plurality of information databases. In light of the forgoing arguments, the examiner respectfully requests the honorable Board of Appeals and Interferences to sustain the rejection.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

/Jay Morrison/

Jay Morrison, Assistant Examiner, AU 2168

December 2, 2007

Conferees:

Tim Vo, SPE AU 2168

Hosain Alam, SPE AU 2166

TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER